

LISTING OF CLAIMS

The following listing of claims replaces all previous listings and versions of claims in this application.

1. (Currently Amended) A gas or like substance infusing structure for a centrifugal pressurization pump, comprising:

a drum-shaped case-(4) in which an intake port-(2) and a discharge port-(3) are formed, and to which is installed an impeller wheel-(5) formed of multiple including a plurality of radially disposed impeller vanes-(19);

a compression face-(36) defining a narrowing compression chamber (33) opposing the impeller vanes-(19) from the intake port-(2) side facing the impeller wheel-(5); and

a pressure block-(16) on which is formed a pressure divider wall-(35) that prevents the leakage of fluid from within impeller chambers-(27) formed between the sides of impeller vanes-19,

wherein the fluid entering the centrifugal pressurization pump from the intake port-(2) is pressurized within a pump chamber-(9) formed by the impeller wheel-(5) and pressure block-(16) and discharged through the discharge port-(3), and

wherein a gas infusion unit-(6) supplies a gas to the intake port-(2) based on increased fluid pressure at the discharge port-(3).

2. (Currently Amended) The gas or like substance infusing structure for a centrifugal pressurization pump according to ~~the first claim 1~~, wherein a constricting device ~~(70)~~ is provided within the discharge duct ~~(20)~~ which connects to the discharge port ~~(3)~~, said constricting device ~~having the purpose of increasing~~ configured to increase the fluid pressure within the pump chamber ~~(9)~~.

3. (Currently Amended) The gas or like substance infusing structure for a centrifugal pressurization pump according to ~~the first and second claims~~ claim 1, wherein a relief valve ~~(75)~~ is installed to the discharge duct ~~(20)~~ to prevent fluid pressure within the pump chamber ~~(9)~~ from rising above a predetermined level.

4. (Currently Amended) The gas or like substance infusing structure for a centrifugal pressurization pump according to ~~the first, second, and third claims~~ claim 1, wherein a pressure differential ridge ~~(39)~~ is formed on the compression face ~~(36)~~ that extends from the inlet port ~~(2)~~ to the pressure divider wall ~~(35)~~, said pressure differential ridge being formed as an acutely inclined partial surface that diverts the flow of fluid and gas toward the impeller vanes ~~(19)~~.

5. (New) The gas or like substance infusing structure for a centrifugal pressurization pump according to claim 2, wherein a relief valve is installed to the discharge duct to prevent fluid pressure within the pump chamber from rising above a predetermined level.

6. (New) The gas or like substance infusing structure for a centrifugal pressurization pump according to claim 2, wherein a pressure differential ridge is formed on the compression face that extends from the inlet port to the pressure divider wall, said pressure differential ridge being formed as an acutely inclined partial surface that diverts the flow of fluid and gas toward the impeller vanes.

7. (New) The gas or like substance infusing structure for a centrifugal pressurization pump according to claim 3, wherein a pressure differential ridge is formed on the compression face that extends from the inlet port to the pressure divider wall, said pressure differential ridge being formed as an acutely inclined partial surface that diverts the flow of fluid and gas toward the impeller vanes.

8. (New) The gas or like substance infusing structure for a centrifugal pressurization pump according to claim 5, wherein a pressure differential ridge is formed on the compression face that extends from the

inlet port to the pressure divider wall, said pressure differential ridge being formed as an acutely inclined partial surface that diverts the flow of fluid and gas toward the impeller vanes.